Don’t let COVID-19 distract you from a rise in other infectious diseases – stay alert!

The growth of the COVID-19 pandemic globally over the past 18 months has been exponential, and despite mitigating measures and the vaccine roll-out, the virus continues to mutate and spread. As of 5.21pm CEST June 15, 2021, there had been 176,156,662 confirmed cases of COVID-19, including 3,815,486 deaths, reported to WHO[1]. Important though it is to continue world efforts to tackle SARS-CoV-2, which causes COVID-19, the impact of the virus on other infectious diseases should not be ignored. Whilst social distancing measures and lockdowns have kept some infectious diseases from spreading, as they normally would – the shift in healthcare resource allocation and adaptions due to the pandemic measures are causing their own concerns. With some essential healthcare services on temporary hold, with access barriers and limited social services, this has created a vacuum for certain diseases to rise and spread. It is obviously essential to control and prevent the spread of COVID-19, but it’s equally important to be alert to other infectious diseases that could cause severe health issues or even lead to death.

Temporary halt

In some cases, many global healthcare programmes and funding streams committed to providing healthcare to tackle other infectious diseases have been halted, or their resources redirected to COVID-19 mitigation. For instance, many key neglected tropical disease (NTD) activities have been postponed[2]. Endemic NTDs include Gambiense sleeping sickness, lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiases (STH), trachoma and visceral leishmaniasis. It’s not yet known how such programme disruptions will impact the hard-won gains of reduced infection, morbidity, mortality, and elimination timelines. Access to medicines and vaccines for other infectious diseases in third world countries has also hampered treatment for diseases such as malaria[3], dengue[4], polio[5] and HIV in children in sub-Saharan Africa[6].

Stay alert

Pressing the pause button on vaccinations for other infectious diseases is one of many issues caused by the global COVID-19 response. Another is the health risk caused by building closures during social lockdowns. Legionnaires disease is a potentially fatal pneumonia-like illness caused by the legionella pathogenic bacteria. Common in low numbers in freshwater environments, they can multiply in manmade air-conditioning systems or humidifiers, leading to disease outbreaks in buildings cooled in this way even in water dispensers. With buildings closed during lockdowns, stagnant water might have been left standing in these systems – creating a fertile breeding ground for legionella to multiply and pose a significant public health risk[7,8]. In the US, The **Centers for Disease Control and Prevention (CDC) has warned** that a period of prolonged inactivity in buildings could spur the growth of Legionella, and has issued guidance for reopening buildings after prolonged shutdown. Another infectious disease that has made its mark during the COVID-19 pandemic has been Clostridioides difficile (C. difficile), an infection found in the gut which can cause severe diarrhoea and other intestinal complications. Infection is most common in patients undergoing lengthy hospital stays, where strict hygiene controls may be compromised, and in those taking certain antibiotics, which can upset the balance of the intestinal microbial ecosystem, making the gut more vulnerable to infection[9]. Research suggests that around 85% of hospitalised COVID-19 patients in the UK were treated with at least one course of antibiotics during wave I of the pandemic[10]. There is a fear that over-use of antibiotics is fuelling the development and persistence of the antibiotic-resistant bacteria known as superbugs, so testing for infection diagnosis before antibiotic treatment is important, to avoid unnecessary use.

Immuno-compromised

COVID-19 can also trigger secondary infections, and medics are increasingly alert to these invasions while a patient’s immune defences are compromised. Pinpointing the chain of infection can be tricky, however, as severely ill respiratory patients, with underlying chronic conditions, such as Chronic obstructive pulmonary disease (COPD), can also develop such secondary infections, so tracing the timescale of multiple infections is important. Symptoms

of some fungal diseases can be similar to those of **COVID-19**, including fever, cough, and breathing difficulties[11], so laboratory testing is essential to determine whether a patient has a fungal infection, COVID-19, or both. Prompt diagnosis should lead to speedy treatment, to prevent further health deterioration or death. Patients with severe COVID-19, such as those under intensive care, are particularly vulnerable to bacterial and fungal infections. The most common fungal infections in COVID-19 patients include aspergillosis, or invasive candidiasis, which can cause severe illness and death, the latter spreading particularly easily in healthcare facilities, if hygiene protocol is breached[12-16]. Invasive pulmonary aspergillosis is emerging as a secondary infection in patients with COVID-19, which can present as alveolar disease, airway disease (i.e., invasive *Aspergillus* tracheobronchitis), or both[17]. Typically, it is characterised by plaques in the large airways (i.e., trachea and bronchi). Cohort studies show that critically ill patients with COVID-19 are also at high risk of developing invasive aspergillosis[18-23]. COVID-19-associated pulmonary aspergillosis (CAPA) was observed in 3–33% of (mostly mechanically ventilated) patients who were admitted to ICUs, although various case definitions for CAPA were used[24]. Combined with severe viral infection, aspergillosis is a mix of airway-invasive and angio-invasive disease and could cause poor airway clearance or inflammation-associated epithelial damage, systemic immune-suppression and underlying lung disease[25].

Test with confidence

An open mind to the possibilities of other infectious diseases besides COVID-19 is crucial to maximise the health and wellbeing of patients in need. Effective testing procedures are vital for early disease detection, so that the correct treatment can be administered as fast as possible, the patient isolated, if necessary, and limiting the risk of infection. Early detection is key to improving patient pathway and treatments. Equally important is disease identification where presenting symptoms could be caused by a number of underlying conditions, for instance COVID-19 and Dengue.

Portfolio power

Novacyt is an international specialist in diagnostic testing for infectious diseases. With a world-leading portfolio of tests for COVID-19 and variants, we also provide high quality tests for a wide range of other pathogens. **PathFlow®** rapid tests can diagnose Strep A antigens, Streptococcus pneumoniae, Calprotectin and Adenovirus. In addition, the PathFlow® Legionella pneumophila Rapid Test Cassette is a rapid chromatographic immunoassay for the qualitative detection of Legionella pneumophila serogroup 1 in a human urine specimen. Novacyt also offers a range of serological double diffusion assays intended for the detection of serum antibodies Aspergillus infections and other antigens causing hypersensitivity and/or systemic disease. Preventing the spread and ensuring effective treatment of C.difficile depends on rapid, accurate diagnosis[26]. Our simple antigen tests generate results in less than 10 minutes – a significant benefit in hospital settings where speedy diagnosis to prevent spread – especially in COVID-19 wards – is essential. With a heritage of treating infectious diseases in the food and veterinary sectors, we also have a portfolio of tests for detecting salmonella, campylobacter, listeria and E-coli. New product developments are in the pipeline. Our global bioinformatics surveillance enables Novacyt to develop quality-driven assays to enable healthcare providers, civil leaders, academics and businesses stay alert to rising infections, and mitigate risk to our health and economies. **References:**

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